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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,327	08/01/2005	Hong Linh Truong	CH920020023US1	9108
877 7590 12/24/2008 IBM CORPORATION, T.J. WATSON RESEARCH CENTER P.O. BOX 218 YORKTOWN HEIGHTS, NY 10598				
EXAMINER				
KASSA, ZEWDU A				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/519,327

Applicant(s)

TRUONG ET AL.

Examiner

ZEWDU KASSA

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 September 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

1. This office action is in response to communication filed on 9/16/2008. Claim 1 is pending in this application. Claim 1 is an independent claim. Claim 1 is amended.

Response to Arguments

2. Applicant's arguments with respect to claim 1 has been fully considered but it is not persuasive.

Response to Remarks

3. **Regarding Claim 1**, applicants asserts that the combination of the references are improper because the three reference used are classified as, Varma (375/227), Mahany (375/200) and Mayer (370/235) (Remarks, page 7 second paragraph)
Examiner respectfully disagrees.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case,

Varma teaches dynamic link adaptation based on comparing the number of ACK or NACK received from a receiver with a threshold value to measure the link quality for a better throughput efficiency (Varma, Abstract "first predetermined threshold", Col 5 L45-55 "second threshold") and Mayer teaches the beneficial use of setting the threshold value related to successful ACK three or larger than three and also comparing acknowledgment failure to one to achieve such as a more accurate link quality measurement result in order to adapt the correct link parameters to control the flow of data between transmitter and receiver (Mayer, Abstract, Para, [0015], [0011], [0012], [0010]).

Varma teaches and suggests selecting different dynamic adaptation link parameters such as modulation scheme, symbol rate, error correction scheme and the like based on the channel(link) quality measurement for better throughput efficiency in general (Varma, Col 1 L18-22, L29-34, Abstract, Col 5 L16-26) and Mahany teaches and suggests the benefit of using communication link adaptive parameters such as to determine whether to modify current data packet sizes based on the channel(link) quality measurement for better quality of transmission or throughput efficiency in the analogous art of communication system, particularly by changing the size of the packet which provides a more improvement in a link parameter analysis (Mahany, Abstract).

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that

any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See In re McLaughlin, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Regarding claim 1, applicants assert that the Varma failed to disclose "adapting a variable data rate to the current link quality and supporting multiple transmission rate" (Remark, page 10 fourth paragraph).

Examiner respectfully disagrees.

Varma teaches (Varma, Col 1 L18-22 "...dynamic adaptation of link parameters ... modulation scheme, symbol rate ..."). Applicant argument is not persuasive.

Regarding claim 1, applicant asserts that the combination of Varma with Mayer does not disclose "setting the first value to 3 and the second value to 10; setting the threshold or the number of faulty transmissions to 1".

Examiner respectfully disagrees.

Varma teaches setting the first value and the second value (Varma, Abstract "first predetermined threshold", Col 5 L45-55 "second threshold"); and

Mayer teaches the beneficial use of setting threshold value related to successful ACK three or larger than three and also comparing acknowledgment failure to one to achieve such as a more accurate link quality measurement result in order to adapt the correct link parameters to control the flow of data between transmitter and receiver (Mayer, Abstract, Para [0015], [0011], [0012], Fig. 1 item S2). Applicant argument is not persuasive.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claim1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Varma (US 6643322 B1) in view of Mahany (US 5862171) and Mayer (2002/0145976 A1).**

6. An adaptation method comprising adapting a transmission parameter in a transmitting node of a data communication system (Varma, Col 1 L52-53, Fig. 1 item 1) to a current link quality of a data communication channel (Varma, Col 1 L24-28) the transmission parameter being selected by the

transmitting node from a set of transmission parameters (Varma, Col 2 L40-42, Col 1 L18-22) in dependence on a number of successful transmissions (Varma, Fig. 5 item S501), the number of successful transmissions being compared (Varma, Fig. 5 item S501) in the transmitting node against one of a first value corresponding to a first state of the transmitting node and a second value corresponding to a second state of the transmitting node, the step of adapting comprising in the transmitting node the steps of (Varma, Col 1 L55-58 – Two set of parameters have been used the first set for first state and second set for second state.): adapting a variable data rate to the current link quality and supporting multiple transmission rates (Varma, Col 1 L18-22 "...dynamic adaptation of link parameters ... modulation scheme, symbol rate ..."); counting the number of successful transmissions (Varma, Fig. 5 item S502, Abstract L15-17 "determined by monitoring ... a number of ACK messages that occur"); selecting and switching to the adapted transmission parameter (Varma, Col 2 L40-42) by switching to a different data rate allowing adaptation of the variable data rate to present channel conditions (Varma, Col 1 L18-22 "...dynamic adaptation of link parameters ... modulation scheme, symbol rate ..."); in response to the number of successful transmissions equaling or exceeding the first value when the transmitting node is in the first state (Varma, Col 6 L36-41, Fig. 4, Fig. 5) and in response to the number of successful transmissions equaling or

exceeding the second value when the transmitting node is in the second state (Varma, Col 6 L30-35, Fig. 4, Fig. 5); and in dependence of the success or failure of a subsequent transmission, operating the transmitting node in one of the first state and the second state (Varma, Col 7 L16-18), wherein the step of operating the transmitting node in the second state further comprises in the event of a faulty transmission transitioning to the first state, and further comprising (Varma, Abstract, Fig. 4, Fig. 5): counting a number of faulty transmissions and selecting the adapted transmission parameter in dependence of a threshold of the number of faulty transmissions (Varma, Fig. 5 item S501, Abstract "determined by monitoring a number of NACK messages ... that occur"); and selecting the transmission parameter used by a responding receiver (Varma, Col 2 L40-42, Fig. 1 item 2, Col 3 L33-43); wherein the step of selecting the adapted transmission parameter further comprises selecting a different data rate, and (Varma, Col 1 L18-22).

7. Varma does not teach wherein the step of selecting the adapted transmission parameter further comprises selecting a packet length different to the length used before. Mahany teaches wherein the step of selecting the adapted transmission parameter further comprises selecting a packet length different to the length used before (Mahany, Abstract L19-21 "determining

weather to modify current packet sizes"). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made, to implement wherein the step of selecting the adapted transmission parameter further comprises selecting a packet length different to the length used before, as taught by Mahany because Varma teaches and suggests selecting different dynamic adaptation link parameters such as modulation scheme, symbol rate, error correction scheme and the like based on the channel(link) quality measurement for better throughput efficiency in general (Varma, Col 1 L18-22, L29-34, Abstract, Col 5 L16-26) and Mahany teaches and suggests the benefit of using communication link adaptive parameters such as to determine whether to modify current data packet sizes based on the channel(link) quality measurement for better quality of transmission or throughput efficiency in the analogous art of communication system, particularly by changing the size of the packet which provides a more improvement in a link parameter analysis (Mahany, Abstract).

8. Varma does not explicitly teach setting the first value to 3 and the second value to 10; setting the threshold or the number of faulty transmissions to 1. Mayer teaches setting the first value to 3 and the second value to 10 (Mayer, Para [0015], [0011], [0012], Abstract); setting the threshold or the number of faulty transmissions to 1 (Mayer, Fig. 1 item S2).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement the teachings of Mayer into Varma since Varma teaches dynamic link adaptation based on comparing the number of ACK or NACK received from a receiver with threshold values to measure the link quality and to make adjustment (Varma, Abstract "first predetermined threshold", Col 5 L45-55 "second threshold") and Mayer teaches the beneficial use of setting the threshold value related to successful ACK three or larger than three and also comparing acknowledgment failure to one to achieve such as a more accurate link quality measurement result in order to adapt the correct link parameters to control the flow of data between transmitter and receiver (Mayer, Abstract, Para [0015], [0011], [0012]).

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ZEWDU KASSA whose telephone number is (571)270-5253. The examiner can normally be reached on Monday - Friday (7:30 - 5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Payne can be reached on 571 272 3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/David C. Payne/
Supervisory Patent Examiner, Art Unit 2611